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DEVELOPMENT AND VALIDATION OF THE AIR FORCE TECHNICAL TRAINING STUDENT SURVEY

By

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June 1977
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AIR FORCE SYSTEMS COMMAND
BROOKS AIR FORCE BASE, TEXAS 78235

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As part of a larger study to assess the impact of student attitudes on performance in Air Force technical training, a Technical Training Student Survey (TTSS) was developed and validated. The TTSS, composed of 121 items which are divided into 12 scales, was administered to 12,666 enlisted students attending one of 53 different Air Force technical training courses. Based upon performance in training, this sample was subdivided into "graduate" and "eliminee" groups. Normative test characteristics were evaluated and found satisfactory. Comparisons between the responses of the graduate and eliminee groups were accomplished, and it was found that 8 of the 12 scale means were significantly different between groups. These differences might be summarized as follows: the graduates thought the training experience more important, saw their instructors as being more →

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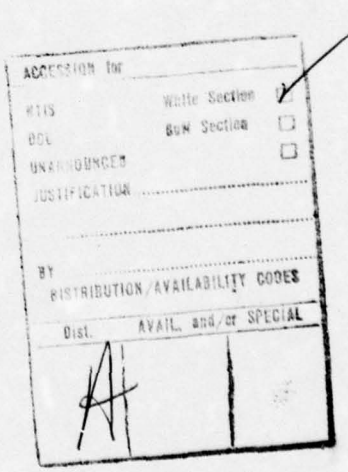
competent and personable, felt less control and stress, and were more satisfied with their training and career choices. A regression analysis indicated that the TTSS added significant and unique information concerning student performance, and, based on these findings, it was concluded that the TTSS could provide reliable and valid assessment of student attitudes related to performance in Air Force technical training.

PREFACE

The work reported in this study was accomplished under project 7719, Selection and Classification Technology, task 771902, Exploration of Methods for Increasing the Effectiveness of Personnel Programs.

Appreciation is expressed to the Air Training Command course managers, at the five training centers, from which these data were gathered. Their support and enthusiasm were essential for the successful completion of this project.



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I. INTRODUCTION

To accomplish its mission, the Air Force requires large numbers of skilled personnel specially trained to operate and maintain a highly technical force. To ensure that these technicians are trained in the skills needed and are available in the numbers necessary, the Air Force must invest considerable financial and human resources in a diverse and responsive technical training program. Air Force technical training is conducted under the auspices of Air Training Command (ATC), whose primary function is to provide the required number of technically skilled people necessary to keep the Air Force in a state of operational readiness.

In 1972, ATC began to experience an unacceptable increase in the rate of student attrition from Air Force Technical Training (TT). In response to this rise in attrition rates, ATC/TT requested that the Personnel Research Division, Air Force Human Resources Laboratory, prepare a briefing comparing the aptitude levels of the 1971 and 1972 enlisted accessions. This was to determine if any significant changes in input quality had occurred and, if so, whether these changes could account for the increases in attrition. Data presented at the briefing and previous experience with the technical training system led ATC to conclude that aptitude was not the sole driving factor behind increased attrition rates. Therefore, ATC initiated a Request for Personnel Research (RPR-72-26) to have the Personnel Research Division investigate student attitudes towards Air Force technical training and the relationship between those attitudes and performance (most importantly attrition) in technical training courses. This study would involve a multiphase research effort designed to (a) produce a valid measurement instrument for obtaining student attitudes, (b) compare and contrast student attitudes at various training centers and in courses having differing attrition rates, and (c) assess the relationship between attitudes and performance in general, and attitudes and performance in particular training courses. This report will document the development and validation of the attitudinal measurement instrument while subsequent reports will document the later stages of this overall effort. Therefore, the objectives of this study were to develop and assess the validity of a methodology to obtain student attitudes concerning their Air Force technical training experience.

II. METHOD

Subjects

A sample of 12,666 nonprior service enlisted accessions (10,980 males and 1,686 females) provided the data base used in this study. All subjects entered the Air Force between 1 June 1973 and 31 December 1975 and attended classes at one of the Air Force Technical Training Centers during this time period. Further delineation of sample and subject characteristics will be presented at a later point.

Development of Assessment Instruments

An extensive review of the literature was conducted regarding motivation, expectancy, training and organizational theories, job satisfaction, and the relationship between these type variables and performance/attrition in technical training. As a result of this review, it was decided that a satisfactory instrument should tap student attitudes in the following areas: (a) expectancy about the technical training experience; (b) importance of those expectancies; perception of instructor personnel, both in terms of (c) competence and (d) instructor-student relations; (e) perception of fellow students; (f) degree of organizational control; (g) degree of stress in the training environment; (h) quality of training materials; (i) perception of the physical setting; (j) satisfaction with the training experience and (k) overall career choice. In addition to these 11 factors, it was decided to employ the Porter-Lawler (1968) model of occupational motivation and generate a "Motivational Force" measure by combining the student's expectancies about the training experience and the importance, or valence, of those expectancies to the student. Thus, a total of 12 separate attitudinal measures would be obtained from each respondent. Each separate factor would be represented in the final instrument by a separate scale.

An item pool of approximately 300 items was prepared and tested, using a sample of 300 students selected from different technical training

courses. Technical screening and judgemental Q-sort techniques were used to eliminate items, and a final instrument, the Technical Training Student Survey (TTSS), was developed by Lt Col C. G. Secrist. The TTSS contains 12 scales composed of a total of 121 items; however, since certain items require double responses, each subject makes 147 responses. The scales and numbers of items in each scale are presented in Table 1. The items composing each scale are presented in Appendix A.

For scoring purposes, item options were coded from *1* through *5*. A value of *5* represented the positive anchor of the option continuum while a value of *1* represented the negative anchor point. For example, for item #1 (see Appendix A), a response of "Very Likely" would be coded as *5* while a response of "Very Unlikely" would be coded as *1*. With the exception of the Motivational Force scale, an individual's scale score was derived by the summation of his item responses per scale. For the Motivational Force scale, an individual's scale score was obtained by summing the products of each scale 1 item by its partner scale 2 item. Approximate testing time for the TTSS is 30 minutes. A copy of the TTSS is presented in Appendix B.

Table 1. Technical Training Student Survey-Scales

Scale	Number of Items
1. Motivational Expectancy	26
2. Motivational Valence	26
3. Motivational Force	26
4. Instructor Task Competence	10
5. Instructor Personal Relations	10
6. Fellow Students	10
7. Organizational Control	15
8. Training Stress	15
9. Training Materials	10
10. Physical Setting	18
11. Global Training Satisfaction	3
12. Career Choice Satisfaction	4

In addition to the TTSS, eight other inventory forms were developed to provide information useful in later phases of the overall research effort. A listing of these forms and the information they were designed to provide is presented in Table 2. Each form is presented in Appendix B. A total survey package was composed of the TTSS and the other eight forms. All forms were produced so that after administration, data could be retrieved by electronic optical scannings.

Table 2. Additional Assessment Forms

Form Name	Number	Information Desired
1. Student Control Data	Fm 1632	bio/demographic data
2. Instructor Control Data	Fm 1633	bio/demographic data
3. Student Performance Assessment	Fm 1634	student and instructor ratings of student performance in class
4. Student Training Records	Fm 1635	time required (for self-paced) or final course grade
5. Student Remedial Training	Fm 1636	need for remedial instruction
6. Student Elimination	Fm 1637	reason for attrition
7. Instructor Performance Assessment	Fm 1638	supervisor rating of instructor
8. Student Peer Rating	Fm 1639	rating of fellow students

Sampling Strategy

Before construction of the sampling plan, several major sampling objectives were identified. First, the sample had to be sufficient in scope and numbers to allow for (a) the development of normative values for the Air Force technical training system as a whole, (b) the development of normative values for individual Air Force Technical Training Centers, and (c) providing reasonably good estimates of normative values for many specific technical training courses. This would necessitate sampling large numbers of students attending many different courses at

various Air Force Technical Training Centers. Second, selection of the sample should also allow later comparisons between students from courses having disparate attrition rates; i.e., subjects from both high- and low-attrition courses had to be included. Finally, in order to study later the impact of attitudes, holding aptitudes constant, subject selection had to be made with respect to the "Selector Aptitude Requirements" for the various courses. With consideration given to these major goals and other factors such as student flow, number of blocks of instruction per course, and whether the course was "self paced" or "lock step," a final sampling plan was devised. This plan projected data collection from approximately 14,000 subjects attending one of 53 different courses at one of five different Air Force Technical Training Centers.

Survey Administration

A set of administrative instructions for the various assessment instruments in the survey package was prepared to facilitate standardizing administration. Arrangements were made with the ATC Training Research Applications Branch servicing each center to provide the personnel necessary for the survey administrations. Surveys were administered to different subgroups of subjects at selected points during the training semester. It was found that in almost all cases, maximum subject cooperation was obtained and few problems developed.

III. RESULTS AND DISCUSSION

Processing of Forms

Completed survey forms were returned for processing. Forms were checked for compliance with directions, then optically scanned into electronic data files. A distribution was produced showing the number of TTSS forms with missing entries and the number of omissions per form. All TTSS forms with seven or more response omits (out of a possible 147) were discarded from further processing. Any remaining form would then have a maximum of 4.76% missing data; 95% of the forms contained complete response sets. To facilitate analysis, scale midpoint values, representing a neutral opinion, were inserted to replace all missing data. After the data reduction and cleanup, a sample of 12,666 subjects remained. A breakdown of the total sample by Air Force Technical Training Center and course is presented in Table 3.

For the total sample, scale midpoints, the observed range of scale scores, and scale score means and standard deviations are presented in Table 4. Before a test can be considered psychometrically sound, it must first be shown to be a reliable source of measurement. Internal consistency measures are often used as a good estimate of test or scale reliability. Possible values for this measure range from a maximum of 1.00, perfect internal consistency, to a minimum of 0.0,

Table 3. Number of Students by Course

Technical Training Center									
Chanute		Keesler		Lackland		Lowry		Sheppard	
Course	N	Course	N	Course	N	Course	N	Course	N
30230	102	20731	314	30630	267	20630	25	29130	216
31630	174	27630	546	81130	1,310	31631	175	36130	90
32530	216	29333	133	81230	902	32130	106	36231	225
32531	187	30331	196			32231A	92	36330	281
42132	151	30332	157			32231Q	129	40330	109
42231	163	30333	209			32430	238	43131	389
42330	313	30430	244			32632	55	51130	262
42430	138	30431	142			46130	297	54231	154
43131	404	30434	237			46230	252	90230	428
43230	492	30534	85					90430	321
54130	144	32830	187					90530	97
		32831	170					98230	78
		32833	208						
		32834	182						
		70230	398						
		73230	276						
Total	2,484		3,684		2,479		1,369		2,650

Table 4. **Psychometric Characteristics of the Technical Training Student Survey**
Total Sample (N = 12,666)

Scale	Scale Midpoint	Observed Range	Mean	SD	Coefficient Alpha	Standard Error of Measurement
1. Motivational Expectancy	78	26–130	93.50[a]	17.25	.90	5.40
2. Motivational Valence	78	26–130	105.02[a]	14.31	.88	4.98
3. Motivational Force	338	26–650	394.78[a]	103.94	.91	30.77
4. Instructor Task Competence	30	10–50	42.68[a]	7.09	.92	2.01
5. Instructor Personal Relations	30	10–50	41.03[a]	7.60	.93	2.04
6. Fellow Students	30	10–50	33.29[a]	7.94	.79	3.60
7. Organizational Control	45	15–75	36.78[b]	10.47	.82	4.40
8. Training Stress	45	15–75	38.52[b]	11.38	.86	4.21
9. Training Materials	30	10–50	34.76[a]	7.10	.76	3.51
10. Physical Setting	54	18–90	63.36[a]	11.52	.83	4.77
11. Global Training Satisfaction	9	3–15	11.20[a]	2.69	.64	1.62
12. Career Choice Satisfaction	11	2–20	12.66[a]	4.27	.75	2.12

[a]Indicates obtained mean is significantly (Bonferroni ($\alpha = .01$)) greater than scale midpoint (neutral opinion).
[b]Indicates obtained mean is signifiacntly less than scale midpoint (neutral opinion).

indicating no internal consistency. Internal consistency values, expressed as Cronbach's Alpha, and the standard error of measurement for each scale of the TTSS are presented in Table 4. These values range from a maximum of .93 (Instructor Personal Relations) to a minimum of .64 (Global Training Satisfaction). The low coefficient for the Global Training Satisfaction scale might reflect the fact that this scale has very few items (3). Nevertheless, a value of .64 is not so low as to preclude the use of the scale. With the exception of the Global Training Satisfaction scale, values obtained for the internal consistency coefficients of other scales were quite satisfactory and lead to the conclusion that consistent measurement by these TTSS scales occurs in the technical training population.

In interpreting scale scores and scale score means of this study, a few guidelines are useful. For most scales, a value above the scale midpoint reflects a positive attitude while a value below the midpoint reflects a negative attitude. The exceptions to this general rule involve scales 7 (Organizational Control) and 8 (Training Stress). For these scales, a value higher than the midpoint reflects either perceived over-control or stress while a value below the midpoint reflects either perceived under-control or stress. Since the relationships between these measures and other variables, such as performance, are not yet well documented, care should be exercised in the interpretation of these scales. However, certain statistical techniques can aid in the interpretation of these survey results.

T-tests were accomplished to identify scale score means significantly greater than or less than the scale midpoints (neutral opinions). The results of those tests are summarized in Table 4. (For this and all the following statistical comparisons, the Type I Error Rate [the probability of incorrectly accepting the statistical significance of a difference] was controlled per family of comparisons; i.e., the total error rate per family $\leq \alpha$. In this case, using the Bonferroni Technique (Miller, 1966) the total Type I Error Rate [α] for all 12 scale comparisons was $\leq .01$. In all following cases, the reported error rate will be for that family of comparisons under discussion.) Among the total sample scale score means, all means except those for 7 (Organizational Control) and 8 (Training Stress) were found to be significantly greater than the scale midpoints. This indicates that, as a group, technical training students reflected positive attitudes regarding the technical training environment and were satisfied with both the global training experience and their particular career choices.

The interscale correlation coefficients obtained from the total sample are presented in Table 5. For the most part, the values reflect only low to moderate relationships among the scales. Certain exceptions include the correlation of scale 3 (Motivational Force) with scales 1 (Motivational Expectancy) and 2 (Motivational Valence). These high interrelationships should be expected both because of the logical and empirical relationships of these particular scales. Other exceptions include a high correlation (.76) between 4 (Instructor Task Competence) and 5 (Instructor Personal Relations)

Table 5. **Scale Intercorrelations**

Total Sample (N = 12,666)

Scale	1 (Motivational Expectancy)	2 (Motivational Valence)	3 (Motivational Force)	4 (Instructor Task Competence)	5 (Instructor Personal Relations)	6 (Fellow Students)	7 (Organizational Control)	8 (Training Stress)	9 (Training Materials)	10 (Physical Setting)	11 (Global Training Satisfaction)	12 (Career Choice Satisfaction)
1	1.00											
2	.55	1.00										
3	.93	.79	1.00									
4	.29	.19	.30	1.00								
5	.30	.18	.30	.76	1.00							
6	.08	.00	.06	.11	.14	1.00						
7	−.36	−.13	−.32	−.40	−.47	−.27	1.00					
8	−.25	−.07	−.23	−.35	−.36	−.31	.59	1.00				
9	.29	.13	.28	.36	.34	.22	−.49	−.61	1.00			
10	.31	.16	.30	.31	.32	.23	.44	−.50	.53	1.00		
11	.37	.24	.38	.26	.26	.13	.34	.38	.33	.35	1.00	
12	.23	.13	.23	.17	.17	.10	.25	.29	.25	.24	.68	1.00

and a moderately high correlation (.68) between 11 (Global Training Satisfaction) and 12 (Career Choice Satisfaction). These relationships should also, logically, be expected to be moderately high.

Finally, there is a moderate relationship (.59) between Organizational Control and Training Stress, and a moderate negative relationship (−.61) between Training Stress and Training Materials. These relationships were not fully expected and should be explored in more detail in future research. The remaining inter-scale correlations are relatively small, and this may be interpreted as being a positive feature of the test instrument. In general, it appears as though the different scales are tapping essentially different aspects of the technical training experience.

Summarizing the results presented thus far, it would appear that based on considerations of range, variance, mean scores, and reliability estimates, the scales of the TTSS are psychometrically suitable for effective use. However, the usefulness of this instrument is dependent not only upon its psychometric soundness, but also on its validity; i.e., having a relationship to student performance in Air Force technical training. To assess this relationship, the total sample group was subdivided into a "Graduate Group," composed of 11,423 subjects who had successfully completed technical training courses, and an "Eliminee Group," composed of 1,243 subjects who were not successful in technical training and were eliminated before the completion of their training courses. For the Eliminee Group, reasons for termination and the percentages of eliminees in each category of elimination are presented in Table 6. A casual inspection of this table leads to the conclusion that this group is a rather typical sample of Air Force technical training eliminees. If it can be shown that the TTSS differentiates between this group of eliminees and the group of graduates, then it may be concluded that there is a relationship between the TTSS and performance in the technical training environment.

The scale score means and standard deviations for both the Graduate and Eliminee Groups are presented in Table 7. To test whether the observed differences between the means are statistically significant, T-tests were performed. These tests are summarized in Table 7. It was found that the Graduate Group scale means were significantly higher than the Eliminee Group scale means for the following scales: 2 (Motivational Valence), 4 (Instructor Task Competence), 5 (Instructor Personal Relations), 9 (Training Materials), 11 (Global Training Satisfaction), and 12 (Career Choice Satisfaction). The Eliminee Group scale means were found to be significantly higher than the Graduate Group for the 7 (Organizational Control) and 8 (Training Stress) scales. No significant differences were found for 1 (Motivational Expectancy), 3 (Motivational Force), 6 (Fellow Students), or 10 (Physical Setting). Using the interpretative guidelines previously given, these findings might be interpreted as follows: (a) there was no difference between the expectations of the graduates and eliminees, but the graduates attributed more valence, or importance, to those expectations, (b) the graduates had more positive attitudes regarding the instructors, both in terms of competence and personal relations, (c) there was no difference in the perception of fellow students, but eliminees perceived more organizational control and stress, graduates also had a more positive attitude towards the training materials, but there were no differences between the groups' perception of the physical setting, and (d) graduates were more satisfied with both their training experience and overall career choice. Summarizing these differences, the graduates thought the training experience more important, saw their instructors as being more competent and personable, felt less control and stress, and were more pleased with their training and career choice than were eliminees.

The finding of significant differences between the responses of graduates and eliminees is

Table 6. **Numbers of Eliminees by Category of Elimination**
(N = 1,243)

Academic		Medical		Motivational		Medical/ Psycho-logical		Admin		Miscel-laneous	
N	%	N	%	N	%	N	%	N	%	N	%
709	57	117	9	177	14	94	8	49	4	97	8

Table 7. **Mean Scale Scores of Graduates and Eliminees**

Scale	Graduates (N = 11,423)		Eliminees (N = 1,243)		
	Mean	SD	Mean	SD	
1. Motivational Expectancy	93.52	17.04	93.33	19.11	.34
2. Motivational Valence	105.30	13.98	102.49	16.84	5.58[a]
3. Motivational Force	395.64	102.43	386.90	116.71	2.54
4. Instructor Task Competence	42.88	6.91	40.83	8.34	8.38[a]
5. Instructor Personal Relations	41.25	7.39	39.02	9.07	8.37[a]
6. Fellow Students	33.31	8.00	33.13	7.32	.82
7. Organizational Control	36.47	10.35	39.62	11.11	9.57[a]
8. Training Stress	38.00	11.24	43.28	11.49	15.43[a]
9. Training Materials	34.91	7.06	33.35	7.29	7.21[a]
10. Physical Setting	63.44	11.39	62.71	12.60	1.96
11. Global Training Satisfaction	11.40	2.59	9.38	2.98	22.97[a]
12. Career Choice Satisfaction	13.04	4.14	9.17	3.88	33.22[a]

[a]Indicates significance; Bonferroni $\alpha = .01$.

important in establishing the validity of the TTSS. But, in addition to the existence of these differences, the pattern of differences which was found is also quite relevant. The fact that no differences were found in perception of fellow students and the physical setting, while significant differences (in the directions noted) were obtained in the remaining scales, lends strong logical and empirical support to the conclusion that the TTSS is related to student performance.

To help assess the magnitude of the relationship between the TTSS and student performance in technical training, a correlation analysis was performed. Again, graduation versus elimination from technical training was used as the criterion. The multiple correlation coefficient between the group of TTSS scales, and the correlation coefficients between individual TTSS scales and the criterion, are presented in Table 8. Statistical tests (F-tests) were performed to identify TTSS measures having a significant relationship with the criterion. These tests are also summarized in Table 8. Taken as a set of scores, the group of TTSS scales were found to be significantly related to the criterion. Additionally, except for scales (1) Motivational Expectancy, (3) Motivational Force, (6) Fellow Students, and (10) Physical Setting, all individual TTSS scales were found to be significantly related to graduation/elimination in technical training. The actual correlation values obtained appear to indicate somewhat low orders of magnitude, but several factors should be considered before interpreting these results. First, these values represent estimates uncorrected for restrictions in range and corrected values would be somewhat higher. Second, both the dichotomous nature of the criterion and the relatively small proportion of eliminees in the sample (circa 10%) are computational restrictions for this type of measure. Finally, even though somewhat low order correlations were found, the TTSS can still be a very useful test instrument if it can be shown that the information obtained from the TTSS is not available from other sources; i.e., do the measures of the TTSS account for unique variance in the criterion? This issue was investigated through a regression analysis.

Table 8. **TTSS Scale Validity Correlations**

Criterion	All Scales	1	2	3	4	5	6	7	8	9	10	11	12
Graduation/Elimination: (N = 12,666)	.33[a]	.00	−.06[a]	−.02	−.09[a]	−.09[a]	−.01	.09[a]	.14[a]	−.06[a]	−.02	−.23[a]	.28[a]

[a]Indicates obtained value is significant; Bonferroni $\alpha = .05$.

The goal of this phase of the overall research effort was to provide an instrument which could obtain information related to student performance not available from aptitudinal measures. To determine whether this goal has been achieved, the predictive validity of a model containing the TTSS scales, Airman Qualifying Examination (AQE) / Armed Services Vocational Aptitude Battery (ASVAB) scores (M, A. G, E composites), and Armed Forces Qualification Test (AFQT) scores was compared to the predictive validity of a model containing only the AQE/ASVAB and AFQT scores. A significant difference between these models would indicate that the TTSS adds both significant and unique information to the prediction of graduation/elimination from training. This comparison is summarized in Table 9. A significant difference was obtained between the models and, therefore, it may be concluded that the TTSS is providing information about student performance not available from aptitudinal measures.

Table 9. **Regression Analysis Summary**

Criterion	R^2 Full Model	Predictors Full Model	R^2 Restricted Model	Predictors Restricted Model	df1	df2	F ratio
Graduation/Elimination (N = 12,666)	.1182	TTSS scales ASVAB (MAGE)[a] AFQT	.0155	ASVAB (MAGE) AFQT	12	12,648	122.81*

[a]Mechanical, Administrative, General, Electronics.
*$p < .01$.

IV. CONCLUSIONS

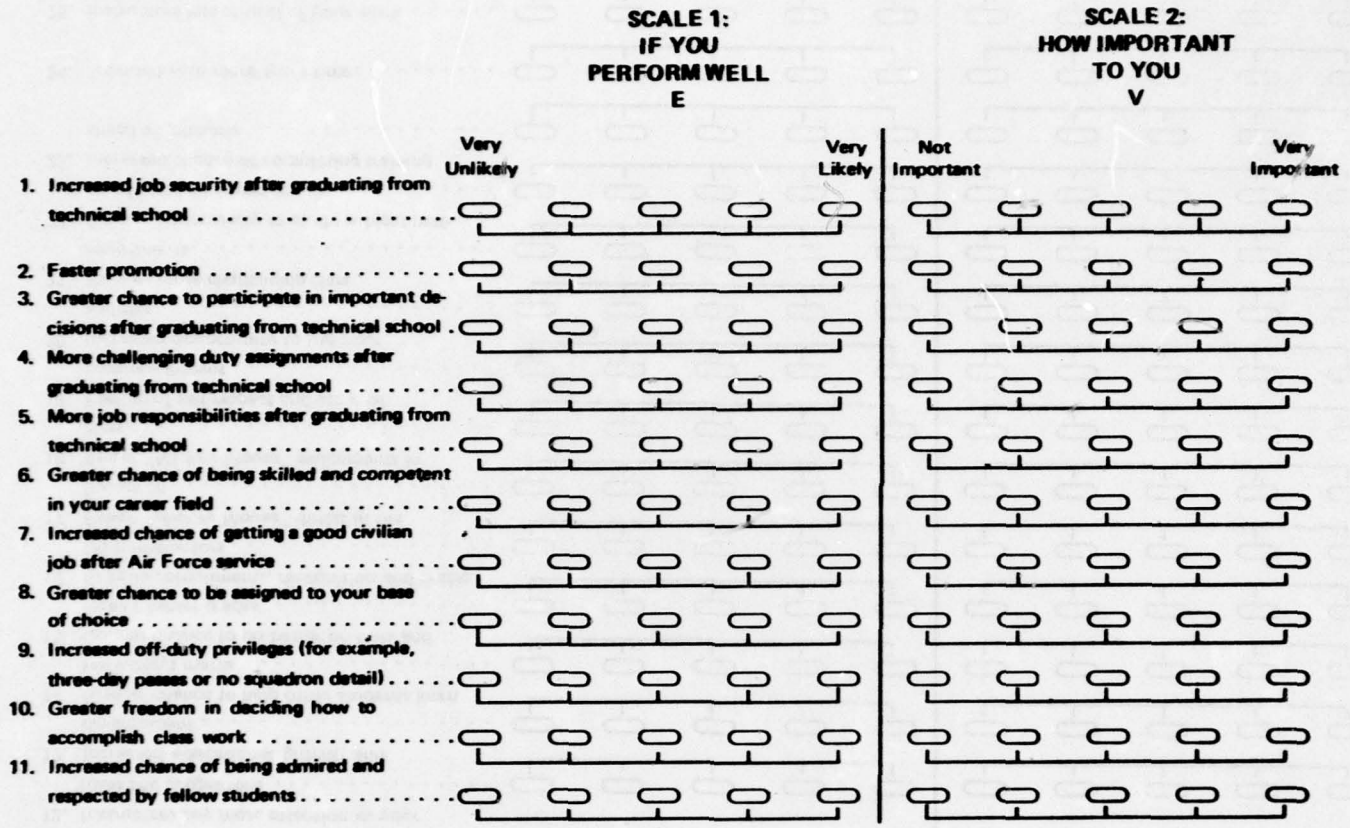
Summarizing the results of this study, it was found that the TTSS is psychometrically sound, that strong empirical and logical evidence exists to support a conclusion that the TTSS is related to performance in technical training, and that information obtained from the TTSS adds significantly and uniquely to the prediction of graduation versus elimination from technical training. Based upon these findings, it may be concluded that the TTSS provides useful and important information concerning the impact of attitudinal factors on student performance within the Air Force technical training system.

REFERENCES

Miller, R.G., Jr. *Simultaneous statistical inference.* New York: McGraw-Hill Book Company, 1966, 67-70.

Porter, L.W., & Lawler, E.E. III. "What job attitudes tell about motivation." *Harvard Business Review*, 1968, 118-126.

I. Scales 1, 2, and 3 = motivational expectancy,[a] motivational valence, and motivational force[b]



[a]Instructions for Scales 1 and 2.

On Scale 1 indicate ***how likely*** it is for you to receive the reward if you ***perform well*** in training.

On Scale 2 indicate ***how important*** the reward is to you. Consider only its importance, not how likely or unlikely you are to receive the reward.

[b]Motivational Force Scale is derived from items in scales 1 and 2.

	SCALE 1: IF YOU PERFORM WELL E Very Unlikely				Very Likely	SCALE 2: HOW IMPORTANT TO YOU V Not Important				Very Important
12. Instructors pay more attention to your ideas and suggestions	○	○	○	○	○	○	○	○	○	○
13. Increased educational growth and development	○	○	○	○	○	○	○	○	○	○
14. Greater chance to help other students learn the subject matter	○	○	○	○	○	○	○	○	○	○
15. Greater chance to do better on tests and receive better grades	○	○	○	○	○	○	○	○	○	○
16. Receive compliments, recognition and praise from instructors	○	○	○	○	○	○	○	○	○	○
17. Fewer "Mickey Mouse" duties in the Squadron	○	○	○	○	○	○	○	○	○	○
18. Fewer "Mickey Mouse" assignments in class	○	○	○	○	○	○	○	○	○	○
19. Feeling of self-respect and sense of accomplishment	○	○	○	○	○	○	○	○	○	○
20. Increased opportunity to use your abilities	○	○	○	○	○	○	○	○	○	○
21. Receive more challenging class assignments	○	○	○	○	○	○	○	○	○	○
22. Greater opportunity to study subject matter of special interest to you	○	○	○	○	○	○	○	○	○	○
23. Increased chance of completing training ahead of schedule	○	○	○	○	○	○	○	○	○	○
24. Provided with more spare time	○	○	○	○	○	○	○	○	○	○
25. Instructors less critical of your work	○	○	○	○	○	○	○	○	○	○
26. Increased chance of being an "Honor" graduate	○	○	○	○	○	○	○	○	○	○

II. Scale 4: Instructor Task Competence[c]

27. Ineffective — Effective

28. Knowledgeable — Ignorant

29. Boring — Interesting

30. Dependable — Undependable

31. Disorganized — Organized

32. Unsure — Confident

33. Convincing — Unconvincing

34. Unprepared — Prepared

35. Intelligent — Stupid

36. Inefficient — Efficient

[c]Instructions for Scales 4 and 5:

1. Please use the scales below to describe your main (lead) instructor.
2. Darken the *one circle on each scale* that best expresses your feelings.

III. Scale 5: Instructor Personal Relations

37. Encourages — Discourages

38. Criticizes — Praises

39. Fair — Unfair

40. Impatient — Patient

41. Considerate — Inconsiderat

42. Hinders — Helps

43. Friendly — Unfriendly

44. Supportive — Hostile

45. Ridicules — Compliments

46. Cooperative — Uncooperative

IV. Scale 6: Fellow Students[d]

	Definitely Disagree				Definitely Agree
47. Certain students are hostile toward other class members	○	○	○	○	○
48. Most students get along well together	○	○	○	○	○
49. Fellow students look out for each other	○	○	○	○	○
50. Certain students are uncooperative	○	○	○	○	○
51. Certain students are responsible for petty quarrels and bad feelings among class members	○	○	○	○	○
52. There are tensions among some students which interfere with training activities	○	○	○	○	○
53. Certain students are incapable of working together	○	○	○	○	○
54. Students help each other to learn the necessary course material	○	○	○	○	○
55. Some students are not liked or accepted by fellow students	○	○	○	○	○
56. Students have to take advantage of others in order to succeed in training	○	○	○	○	○

[d]Instructions for Scales 6–10:

1. Below is a series of statements related to both your training and training environment.
2. Please darken the one *circle on each scale* that best expresses your feelings.

V. Scale 7: Organizational Control

	Definitely Disagree				Definitely Agree
57. Students are given an equal opportunity to demonstrate their capabilities	⬭	⬭	⬭	⬭	⬭
58. Students are subject to strict discipline	⬭	⬭	⬭	⬭	⬭
59. Student training is too closely supervised	⬭	⬭	⬭	⬭	⬭
60. Students are encouraged to speak their minds even if it means disagreeing with the instructors	⬭	⬭	⬭	⬭	⬭
61. Students are encouraged to suggest improvements or solutions to training problems	⬭	⬭	⬭	⬭	⬭
62. Students are encouraged to participate in classroom discussions	⬭	⬭	⬭	⬭	⬭
63. Students are given the opportunity to participate in class	⬭	⬭	⬭	⬭	⬭
64. Student suggestions and recommendations are considered with fairness	⬭	⬭	⬭	⬭	⬭
65. Students are seldom able to use their own judgment	⬭	⬭	⬭	⬭	⬭
66. Students have no say about what happens to them	⬭	⬭	⬭	⬭	⬭
67. Students have little chance to influence the way the class is conducted	⬭	⬭	⬭	⬭	⬭
68. Students have the freedom to establish their own study schedules	⬭	⬭	⬭	⬭	⬭
69. Spare time in class may be spent as each student sees fit	⬭	⬭	⬭	⬭	⬭
70. Students are rarely given the chance to freely express their ideas in the classroom	⬭	⬭	⬭	⬭	⬭
71. Students are seldom allowed to act independently	⬭	⬭	⬭	⬭	⬭

VI. Scale 8: Training Stress

	Definitely Disagree				Definitely Agree
72. Pressure for perfection is unbearable					
73. The military atmosphere in the classroom interferes with learning of the subject matter					
74. Squadron duties interfere with study					
75. In order to do well in training, students have to do things that are against their personal values					
76. Students don't know what is expected of them					
77. There is confusion in the planning and organization of classroom activities					
78. There is considerable conflict among training objectives					
79. Performance standards are unreasonably high					
80. Emphasis is placed on passing the course rather than learning subject matter					
81. There is a good deal of disagreement on how this training should be conducted					
82. The student workload is too heavy					
83. The quantity of class work interferes with how well it is done					
84. Emphasis on military bearing and appearance detract from student performance					
85. Training hours are too long					
86. Conflicts exist in the training requirements					

VII. Scale 9: Training Materials

	Definitely Disagree				Definitely Agree
87. Training equipment (including trainers) is adequate	⬭	⬭	⬭	⬭	⬭
88. Training equipment (including trainers) is readily available for student practice	⬭	⬭	⬭	⬭	⬭
89. Time allowed on training equipment (including trainers) is sufficient	⬭	⬭	⬭	⬭	⬭
90. Training evaluation or testing is an accurate indication of student performance	⬭	⬭	⬭	⬭	⬭
91. Study guides are difficult to understand	⬭	⬭	⬭	⬭	⬭
92. Excessive attention is given to unimportant details	⬭	⬭	⬭	⬭	⬭
93. Course materials are so poor that they contribute little to learning	⬭	⬭	⬭	⬭	⬭
94. Course materials are not closely related to the course objectives	⬭	⬭	⬭	⬭	⬭
95. Course materials are more difficult than they should be	⬭	⬭	⬭	⬭	⬭
96. My progress in class is not what it should be due to the poor quality of training or course materials	⬭	⬭	⬭	⬭	⬭

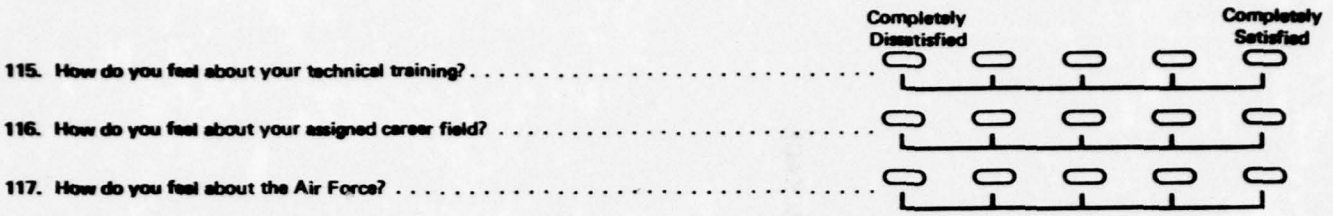
VIII. Scale 10: Physical Setting

	Definitely Disagree				Definitely Agree
97. Classroom temperature is satisfactory	⬭	⬭	⬭	⬭	⬭
98. Dormitory sleeping facilities are adequate	⬭	⬭	⬭	⬭	⬭
99. Classroom lighting is adequate	⬭	⬭	⬭	⬭	⬭
100. Classroom chairs are comfortable	⬭	⬭	⬭	⬭	⬭

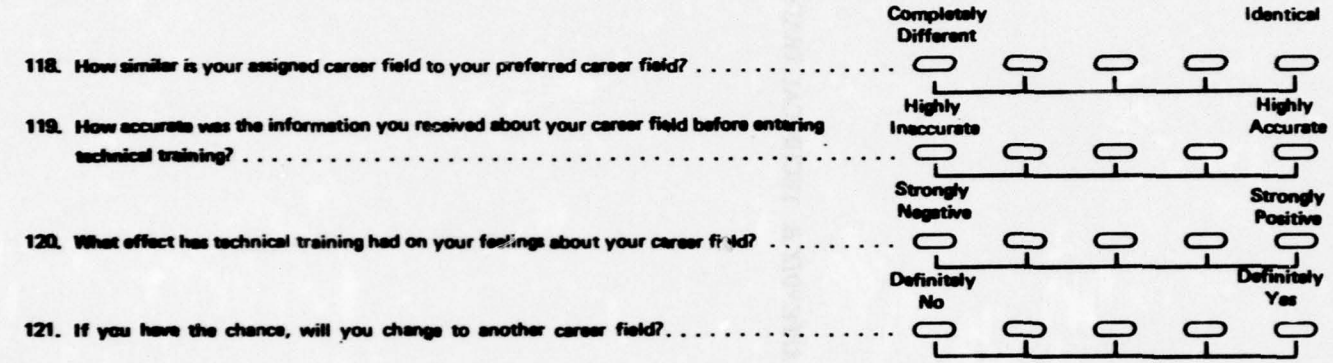
VIII. Scale 10: Physical Setting *(Continued)*

	Definitely Disagree				Definitely Agree
101. Classroom seating arrangement is satisfactory	○	○	○	○	○
102. Length of class breaks is about right	○	○	○	○	○
103. Number of class breaks is sufficient	○	○	○	○	○
104. Study facilities outside the classroom are adequate	○	○	○	○	○
105. Classroom ventilation is about right	○	○	○	○	○
106. Time allowed for testing is sufficient	○	○	○	○	○
107. Classroom noise control is effective	○	○	○	○	○
108. Classroom work space is sufficient (desk or table top area)	○	○	○	○	○
109. Supplementary study materials (manuals, regulations, technical orders, etc.) are readily available for student use	○	○	○	○	○
110. Base recreation facilities are adequate	○	○	○	○	○
111. Off duty study time is sufficient	○	○	○	○	○
112. Time allowed for review of tests is adequate	○	○	○	○	○
113. Enough training time is spent on difficult and important subject matter	○	○	○	○	○
114. Some students would perform better on a different shift	○	○	○	○	○

IX. Scale 11: Global Training Satisfaction[c]



X. Scale 12: Career Choice Satisfaction



[c]Instructions for Scales 11 and 12:

1. Below are statements about your satisfaction with your training and career field.
2. Please *darken the circle that best* expresses your feelings about the statement in the same way you have in the other sections of this form.

APPENDIX B: TECHNICAL TRAINING SURVEY PACKAGE

TECHNICAL TRAINING STUDENT SURVEY
PE 7403
AIR FORCE HUMAN RESOURCES LABORATORY

SSAN

DATE: Yr. 19- ; Day ; Mo. JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC

GENERAL INSTRUCTIONS:

1. The items contained on this form are designed to measure student attitudes toward Air Force technical training.
2. The form is intended to give you the opportunity to help improve student training.
3. It is very important that your answers reflect your true feelings. This is not a test and you are not required to put your name on the form.
4. Please carefully follow the instructions at the beginning of each of the four main sections of this form.

SECTION I:

1. Below are statements describing rewards a student might receive if he performs well in technical training.

2. Beside each statement are two separate rating scales.

   On Scale 1 indicate how likely it is for you to receive the reward if you perform well in training.

   On Scale 2 indicate how important the reward is to you. Consider only its importance, not how likely or unlikely you are to receive the reward.

3. Notice that each scale has five circles. The words above the scales describe the meaning of the circles at the ends of each scale. The three circles in the middle of each scale represent feelings between those described at the scale ends. You might want to think of each scale as similar to a thermometer lying on its side.

4. Answer each item by darkening one circle on each scale to indicate how you feel about the statement. Read each statement carefully and take all the time you need.

	SCALE 1: IF YOU PERFORM WELL					SCALE 2: HOW IMPORTANT TO YOU				
	Very Unlikely				Very Likely	Not Important				Very Important
1. Increased job security after graduating from technical school	○	○	○	○	○	○	○	○	○	○
2. Faster promotion	○	○	○	○	○	○	○	○	○	○
3. Greater chance to participate in important decisions after graduating from technical school	○	○	○	○	○	○	○	○	○	○
4. More challenging duty assignments after graduating from technical school	○	○	○	○	○	○	○	○	○	○
5. More job responsibilities after graduating from technical school	○	○	○	○	○	○	○	○	○	○
6. Greater chance of being skilled and competent in your career field	○	○	○	○	○	○	○	○	○	○
7. Increased chance of getting a good civilian job after Air Force service	○	○	○	○	○	○	○	○	○	○
8. Greater chance to be assigned to your base of choice	○	○	○	○	○	○	○	○	○	○
9. Increased off-duty privileges (for example, three-day passes or no squadron detail)	○	○	○	○	○	○	○	○	○	○
10. Greater freedom in deciding how to accomplish class work	○	○	○	○	○	○	○	○	○	○
11. Increased chance of being admired and respected by fellow students	○	○	○	○	○	○	○	○	○	○

ATC Form 1631, Jun 74

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SECTION I:

	SCALE 1: IF YOU PERFORM WELL Very Unlikely ... Very Likely	SCALE 2: HOW IMPORTANT TO YOU Not Important ... Very Important
12. Instructors pay more attention to your ideas and suggestions		
13. Increased educational growth and development		
14. Greater chance to help other students learn the subject matter		
15. Greater chance to do better on tests and receive better grades		
16. Receive compliments, recognition and praise from instructors		
17. Fewer "Mickey Mouse" duties in the Squadron		
18. Fewer "Mickey Mouse" assignments in class		
19. Feeling of self-respect and sense of accomplishment		
20. Increased opportunity to use your abilities		
21. Receive more challenging class assignments		
22. Greater opportunity to study subject matter of special interest to you		
23. Increased chance of completing training ahead of schedule		
24. Provided with more spare time		
25. Instructors less critical of your work		
26. Increased chance of being an "Honor" graduate		

SECTION II:

1. Please use the scales below to describe your SSAN of main (lead) instructor.
2. Darken the one circle on each scale that best expresses your feelings.

27. Ineffective ... Effective	34. Unprepared ... Prepared	41. Considerate ... Inconsiderate
28. Knowledgeable ... Ignorant	35. Intelligent ... Stupid	42. Hinders ... Helps
29. Boring ... Interesting	36. Inefficient ... Efficient	43. Friendly ... Unfriendly
30. Dependable ... Undependable	37. Encourages ... Discourages	44. Supportive ... Hostile
31. Disorganized ... Organized	38. Criticizes ... Praises	45. Ridicules ... Compliments
32. Unsure ... Confident	39. Fair ... Unfair	46. Cooperative ... Uncooperative
33. Convincing ... Unconvincing	40. Impatient ... Patient	

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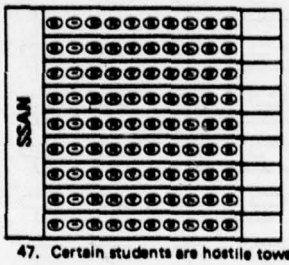

SECTION III:

1. Below are a series of statements related to both your training and training environment.
2. Please darken the one circle on each scale that best expresses your feelings.

	Definitely Disagree				Definitely Agree
47. Certain students are hostile toward other class members	○	○	○	○	○
48. Most students get along well together	○	○	○	○	○
49. Fellow students look out for each other	○	○	○	○	○
50. Certain students are uncooperative	○	○	○	○	○
51. Certain students are responsible for petty quarrels and bad feelings among class members	○	○	○	○	○
52. There are tensions among some students which interfere with training activities	○	○	○	○	○
53. Certain students are incapable of working together	○	○	○	○	○
54. Students help each other to learn the necessary course material	○	○	○	○	○
55. Some students are not liked or accepted by fellow students	○	○	○	○	○
56. Students have to take advantage of others in order to succeed in training	○	○	○	○	○
57. Students are given an equal opportunity to demonstrate their capabilities	○	○	○	○	○
58. Students are subject to strict discipline	○	○	○	○	○
59. Student training is too closely supervised	○	○	○	○	○
60. Students are encouraged to speak their minds even if it means disagreeing with the instructors	○	○	○	○	○
61. Students are encouraged to suggest improvements or solutions to training problems	○	○	○	○	○
62. Students are encouraged to participate in classroom discussions	○	○	○	○	○
63. Students are given the opportunity to participate in class	○	○	○	○	○
64. Student suggestions and recommendations are considered with fairness	○	○	○	○	○
65. Students are seldom able to use their own judgment	○	○	○	○	○
66. Students have no say about what happens to them	○	○	○	○	○
67. Students have little chance to influence the way the class is conducted	○	○	○	○	○
68. Students have the freedom to establish their own study schedules	○	○	○	○	○
69. Spare time in class may be spent as each student sees fit	○	○	○	○	○
70. Students are rarely given the chance to freely express their ideas in the classroom	○	○	○	○	○

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SECTION III:

	Definitely Disagree				Definitely Agree
71. Students are seldom allowed to act independently					
72. Pressure for perfection is unbearable					
73. The military atmosphere in the classroom interferes with learning of the subject matter					
74. Squadron duties interfere with study					
75. In order to do well in training, students have to do things that are against their personal values					
76. Students don't know what is expected of them					
77. There is confusion in the planning and organization of classroom activities					
78. There is considerable conflict among training objectives					
79. Performance standards are unreasonably high					
80. Emphasis is placed on passing the course rather than learning subject matter					
81. There is a good deal of disagreement on how this training should be conducted					
82. The student workload is too heavy					
83. The quantity of class work interferes with how well it is done					
84. Emphasis on military bearing and appearance detract from student performance					
85. Training hours are too long					
86. Conflicts exist in the training requirements					
87. Training equipment (including trainers) is adequate					
88. Training equipment (including trainers) is readily available for student practice					
89. Time allowed on training equipment (including trainers) is sufficient					
90. Training evaluation or testing is an accurate indication of student performance					
91. Study guides are difficult to understand					
92. Excessive attention is given to unimportant details					
93. Course materials are so poor that they contribute little to learning					
94. Course materials are not closely related to the course objectives					
95. Course materials are more difficult than they should be					
96. My progress in class is not what it should be due to the poor quality of training or course materials					
97. Classroom temperature is satisfactory					
98. Dormitory sleeping facilities are adequate					

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SSAN

SECTION III:

	Definitely Disagree				Definitely Agree
99. Classroom lighting is adequate					
100. Classroom chairs are comfortable					
101. Classroom seating arrangement is satisfactory					
102. Length of class breaks is about right					
103. Number of class breaks is sufficient					
104. Study facilities outside the classroom are adequate					
105. Classroom ventilation is about right					
106. Time allowed for testing is sufficient					
107. Classroom noise control is effective					
108. Classroom work space is sufficient (desk or table top area)					
109. Supplementary study materials (manuals, regulations, technical orders, etc.) are readily available for student use					
110. Base recreation facilities are adequate					
111. Off duty study time is sufficient					
112. Time allowed for review of tests is adequate					
113. Enough training time is spent on difficult and important subject matter					
114. Some students would perform better on a different shift					

SECTION IV:

1. Below are statements about your satisfaction with your training and career field.
2. Please darken the circle that best expresses your feelings about the statement in the same way you have in the other sections of this form.

	Completely Dissatisfied				Completely Satisfied
115. How do you feel about your technical training?					
116. How do you feel about your assigned career field?					
117. How do you feel about the Air Force?					

GO TO THE NEXT PAGE

SECTION IV:

118. How similar is your assigned career field to your preferred career field?	Completely Different	Identical
119. How accurate was the information you received about your career field before entering technical training?	Highly Inaccurate	Highly Accurate
120. What effect has technical training had on your feelings about your career field?	Strongly Negative	Strongly Positive
121. If you have the chance, will you change to another career field?	Definitely No	Definitely Yes

REMARKS:

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STUDENT CONTROL DATA FORM

PE 7404

Air Force Human Resources Laboratory

1. COURSE NUMBER

2. TRAINING ID

TNG BLK(S) | CLASS NUMBER

3. SSAN

4. NAME GRID

Last Name | First Name | M.

5. RANK

6. AGE

7. EDUCATION

8. DATE

Mo.	Day	Yr.
JAN		19-
FEB		
MAR		
APR		
MAY		
JUN		
JUL		
AUG		
SEP		
OCT		
NOV		
DEC		

9. TYPE ENLISTEE

- 4 year enlistee
- 4 year, Project Guarantee
- 6 year enlistee
- 6 year, Project Guarantee
- 6 year, Project Guarantee, base-of-choice
- Air National Guard
- Air Force Reserve

10. RACIAL/ETHNIC BACKGROUND

- White
- Black
- Oriental American
- Mexican American
- American Indian
- Other: _____ (Please specify)

11. MARITAL STATUS

- single, never married
- married, accompanied
- married, unaccompanied
- divorced or separated
- widowed

12. SEX

- male
- female

13. GEOGRAPHIC AREA (HOME OF RECORD)

- Maine, New Hampshire, Rhode Island, Massachusetts, Vermont, Connecticut, New York
- New Jersey, Delaware, Pennsylvania, Maryland, Virginia, West Virginia, District of Columbia
- Alabama, Florida, North Carolina, South Carolina, Mississippi, Tennessee, Georgia.
- Arkansas, New Mexico, Louisiana, Texas, Oklahoma, Arizona
- Kentucky, Ohio, Illinois, Indiana, Michigan
- California, Idaho, Utah, Montana, Nevada, Oregon, Washington, Alaska, Hawaii
- Missouri, Nebraska, Wyoming, Colorado, Iowa, Kansas, North Dakota, South Dakota, Minnesota, Wisconsin
- Other such as Guam, Puerto Rico, Virgin Islands, etc.

14. TYPE TRAINEE

- non-prior service
- retrainee (volunteer)
- retrainee (non-volunteer)
- other (Army, Navy, ANG, Res)

ATC Form 1632, Jun 74

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INSTRUCTOR CONTROL DATA FORM

PE 7405

Air Force Human Resources Laboratory

1. COURSE NUMBER	2. TRAINING ID: TNG BLK(S)	2. TRAINING ID: CLASS NUMBER	3. SSAN

4. DATE

Mo.	Day	Yr.
JAN		19-
FEB		
MAR		
APR		
MAY		
JUN		
JUL		
AUG		
SEP		
OCT		
NOV		
DEC		

5. RANK

6. AGE

7. EDUCATION

8. RACIAL/ETHNIC BACKGROUND

- White
- Black
- Oriental American
- Mexican American
- American Indian
- Other: _____ (Please specify)

9. MARITAL STAUS

- single, never married
- married, accompanied
- married, unaccompanied
- divorced or separated
- widowed

10. SEX

- male
- female

11. GEOGRAPHIC AREA (HOME OF RECORD)

- Maine, New Hampshire, Rhode Island, Massachusetts, Vermont, Connecticut, New York
- New Jersey, Delaware, Pennsylvania, Maryland, Virginia, West Virginia, District of Columbia
- Alabama, Florida, North Carolina, South Carolina, Mississippi, Tennessee, Georgia
- Arkansas, New Mexico, Louisiana, Texas, Oklahoma, Arizona
- Kentucky, Ohio, Illinois, Indiana, Michigan
- California, Idaho, Utah, Montana, Nevada, Oregon, Washington, Alaska, Hawaii
- Missouri, Nebraska, Wyoming, Colorado, Iowa, Kansas, North Dakota, South Dakota, Minnesota, Wisconsin
- Other such as Guam, Puerto Rico, Virgin Islands, etc.

12. YEARS OF EXPERIENCE AS AN INSTRUCTOR OR TEACHER (any area)

13. YEARS OF EXPERIENCE IN YOUR CAREER FIELD (exclude years teaching)

14. YEARS OF EXPERIENCE AS AN INSTRUCTOR IN AN IDENTICAL OR SIMILAR CURRICULUM

15. HOW DO YOU FEEL ABOUT YOUR ASSIGNMENT AS AN INSTRUCTOR?

16. HOW DO YOU FEEL ABOUT YOUR CAREER FIELD?

17. HOW DO YOU FEEL ABOUT THE AIR FORCE?

Completely Dissatisfied — Completely Satisfied

ATC Form 1633, Jun 74

PRINTED BY MRC IOWA CITY, IOWA: FORM NO. 3883 W 2300

1. COURSE NUMBER

2. TRAINING ID
TNG BLK(S)
CLASS NUMBER

3. SSAN OF RATER

STUDENT PERFORMANCE ASSESSMENT FORM

PE 7406

AIR FORCE HUMAN RESOURCES LABORATORY

INSTRUCTIONS:

- **ALL RATERS:** Complete Parts 1 through 3 above. Put your SSAN in Part 3.
- **FOR STUDENTS:** Place your SSAN in Part 4 also.
  In Part 5, darken the circle in front of "self."
  Rate yourself on questions 6 and 7 below. The rating should be based only on the Training Block(s) specified in Part 2 above.
  Consider *each item* below separately and darken the circle which best fits your judgment of your own performance.
- **FOR INSTRUCTORS:** Place the SSAN of the student you are rating in Part 4.
  In Part 5, darken the circle in front of "instructor."
  Please rate the student indicated in Part 4 by answering questions 6, 7, and 8 below. The rating should be based only on the Training Block(s) specified in Part 2 above.
  Consider each item below separately and darken the circle which best fits your judgment of the student being rated.

4. SSAN OF STUDENT BEING RATED

5. RELATION TO STUDENT BEING RATED

- ( ) instructor
- ( ) self

The **SCALE KEY** immediately below shows the meaning of the numbers on the rating scales for each item.

1	2	3	4	5	6	7

1 = Lowest 1%
2 = Lowest 10%
3 = Lowest 30%
4 = Middle 40%
5 = Highest 30%
6 = Highest 10%
7 = Highest 1%

6. How would you rate this student's performance compared to other students you have known in this same training program? ( ) ( ) ( ) ( ) ( ) ( ) ( )
1 2 3 4 5 6 7

7. What is this student's training performance capability? (Student's potential regardless of actual performance.) ( ) ( ) ( ) ( ) ( ) ( ) ( )
1 2 3 4 5 6 7

THE NEXT ITEM IS TO BE ANSWERED BY INSTRUCTORS ONLY

8. What is your prediction of this student's operational performance after he completes this training program? ( ) ( ) ( ) ( ) ( ) ( ) ( )
1 2 3 4 5 6 7

ATC Form 1634, Jun 74

PRINTED BY MRC IOWA CITY, IOWA: FORM NO. 3886 W 2300

1. COURSE NUMBER

2. TRAINING ID
TNG BLK(S) | CLASS NUMBER

3. STUDENT SSAN

STUDENT TRAINING RECORDS FORM

PE 7407

AIR FORCE HUMAN RESOURCES LABORATORY

TRAINING PERFORMANCE DATA

- Determine the average percent correct score for the student identified in section 3 at the left.
- Compute the average percent correct score separately for written tests and overall grade as indicated below. The average scores should be calculated only for the Training Block(s) specified in item 2.
- When necessary, convert raw score grades to percent correct score.
- Include all failed test scores and retest scores in the computation of average percent correct scores.

Complete this section only for SELF-PACED COURSES

- Indicate the progress of the student identified above with respect to time needed to complete Training Block(s) indicated in section 2.

4. Average Written Test Score

5. Average or standard time required to complete Block(s) indicated in section 2. (to nearest whole Training Day)

6. ACTUAL TIME taken by this student to complete Block(s) indicated in section 2. (to nearest whole Training Day)

7. Overall final numeric grade in Training Block. (If more than a single Training Block is specified in item 2 above, give average of final numerical grades across block(s)).

ATC Form 1635, Jun 74

PRINTED BY MRC IOWA CITY, IOWA: FORM NO. 3884 W 2300

1. COURSE NUMBER

2. TRAINING ID
TNG BLK(S)
CLASS NUMBER

3. STUDENT SSAN

STUDENT REMEDIAL TRAINING FORM

PE 7408

Air Force Human Resources Laboratory

INSTRUCTIONS

- The information in this section concerns remedial/corrective/specialized training provided for students having difficulty in meeting minimum course standards.
- Remedial/corrective/specialized training includes all additional training not part of the normal course curriculum.
- All data in this section pertains to the student and Training Block(s) identified to the left.

4. Number of hours of remedial/specialized training.

(Include all corrective training except repeated training accomplished in conjunction with "washbacks.")

5. Percentage of remedial/specialized training accomplished by each of the following types of training.

INSTRUCTOR TUTORED

GROUP STUDY

SELF-STUDY

6. Number of times this student "washed back"

7. Number of "washback" hours

ATC Form 1636, Jun 74

PRINTED BY MRC IOWA CITY, IOWA. FORM NO. 3889 W 2300

1. COURSE NUMBER

2. TRAINING ID
TNG BLK(S) | CLASS NUMBER

3. STUDENT SSAN

4. SSAN OF MAIN (LEAD) INSTRUCTOR

STUDENT ELIMINATION FORM

PE 7409

Air Force Human Resources Laboratory

ELIMINATION SUMMARY

- This section concerns circumstances associated with the elimination of the individual identified in item 3 from the technical training course and training block(s) indicated at the left.
- Please answer the questions as accurately as possible. Amplify the data requested with any information you feel will aid in understanding why this student was eliminated from training.

5. TYPE OF ELIMINATION

- ( ) academic
- ( ) medical (physical)
- ( ) medical (psychological)
- ( ) administrative (for cause)*
- ( ) administrative (without cause)**
- ( ) judicial***

See back of this page for an explanation of asterisks above.

6. Report in detail the specific cause of elimination from training. Give considered judgment of the training staff and instructor concerning exact reason the student was eliminated.

7. If the student was removed from training for academic deficiency give the specific subject matter and training hardware or equipment involved.

Use back of page if more space is needed.

ATC Form 1637, Jun 74

EXPLANATION OF ASTERISKS IN ITEM 5 ON THE OTHER SIDE OF THIS PAGE

* Pertains to administrative eliminations processed under AFM 39-12/AFR 30-19 (e.g., unsuitability, misconduct, unfitness, drug abuse).

** Pertains to administrative eliminations processed under AFM 39-10 (e.g., convenience of the Government, minority, dependency, hardship).

*** Pertains to eliminations as a result of courts-martial actions.

ITEM 6 CONTINUED

ITEM 7 CONTINUED

PE 7409

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1. COURSE NUMBER

2. INSTRUCTOR SSAN

INSTRUCTOR PERFORMANCE ASSESSMENT FORM

PE 7410

Air Force Human Resources Laboratory

INSTRUCTIONS

- Please indicate your assessment of the instructor identified at the left by answering the items below.
- Consider each scale separately and darken the circle which best fits your judgment of the instructor being rated.

The SCALE KEY immediately below shows the meaning of the numbers on the rating scales for items 3, 4 and 5.

1	2	3	4	5	6	7

1 = Lowest 1%
2 = Lowest 10%
3 = Lowest 30%
4 = Middle 40%
5 = Highest 30%
6 = Highest 10%
7 = Highest 1%

3. Competence as an instructor (consider teaching performance, preparation, presentation, communications effectiveness, technical knowledge, instructor expertise, etc.).

4. Competence in personal relations with students (consider patience, consideration, fairness, ability to motivate, the overall quality of the relationship with the students, etc.).

5. Indicate instructor's standing with respect to overall value to your organization.

1 2 3 4 5 6 7

ATC Form 1638, Jun 74

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1. COURSE NUMBER	2. TRAINING ID: TNG BLK(S)	2. TRAINING ID: CLASS NUMBER	3. SSAN OF RATER

STUDENT PEER RATING FORM

PE 7411

AIR FORCE HUMAN RESOURCES LABORATORY

INSTRUCTIONS:

- Complete Parts 1 through 3 above. Place your SSAN in Part 3.
- On this form, you are asked to rate your fellow students on their performance in your current block of training as specified in Part 2. From your class roster, select the top three students who are performing the best in this technical training block and put their SSANs in Parts 4, 5, and 6.
- Now select the bottom or lowest three students based on their performance in your current technical training block and put their SSANs in Parts 7, 8, and 9.
- DO NOT INCLUDE YOURSELF IN THESE RATINGS.

TOP THREE STUDENTS		
4. SSAN	5. SSAN	6. SSAN

BOTTOM THREE STUDENTS		
7. SSAN	8. SSAN	9. SSAN

ATC Form 1639, Jun 74

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